

### Solution of sheet3

1]

```
#include <iostream>
using namespace std;
struct Rectangle{
    float width;
    float length;
};
float Area_Rectangle(float w,float l){
    return w*l;
}
float per_Rectangle(float w,float l){
    return 2*(w+l);
}
void print(float w,float l){
    cout<<"("<<w<<","<<l<<")"<<endl;
}
void main(){
    Rectangle r;
    cout<<"enter width and length of rectangle";
    cin>>r.width>>r.length;
    float area,perimeter;
    area=Area_Rectangle(r.width,r.length);
    perimeter=per_Rectangle(r.width,r.length);
    print(r.width,r.length);
    cout<<"area="<<area<<endl;
    cout<<"perimeter="<<perimeter;
}
*****
```

2]

```
#include<iostream>
using namespace std;
struct Complex{
    float real;
    float img;
};
Complex addition(Complex c1,Complex c2){
    Complex c;
    c.real=c1.real+c2.real;
    c.img=c1.img+c2.img;
    return c;
}
Complex subtraction(Complex c1,Complex c2){
    Complex c;
    c.real=c1.real-c2.real;
    c.img=c1.img-c2.img;
    return c;
}
```

```

}
void print_Complex(Complex c){
    cout<<"("<<c.real<<"", "<<c.img<<"") "<<endl;
}
void main(){
    Complex c1,c2;
    Complex add,sub;
    cout<<"enter first complex number:";
    cin>>c1.real>>c1.img;
    cout<<"enter second complex number:";
    cin>>c2.real>>c2.img;
    add=addition(c1,c2);
    sub=subtraction(c1,c2);
    print_Complex(c1);
    print_Complex(c2);
    cout<<"sum="<<add.real<<"+"<<add.img;
    cout<<"sub="<<sub.real<<"+"<<sub.img;

}

```

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3]

a)

```

struct Time{

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    float seconds;
    float minutes;
    float hours;

```

```

};

```

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b)

```

struct Date{

```

```

    int day;
    int month;
    int year;

```

```

};

```

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c)

```

struct information{
    Time start_Time;
    Date date;

```

```

};

```

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4]

```
enum MediaType { CD, TAPE ,RECORD};
```

```
*****
```

5]

```
#include<iostream>
using namespace std;
struct Date{
    int day;
    int month;
    int year;
};

struct Book {
    char title[20];
    char author[20];
    Date date;
    union {
        float dollars;
        int yen;
    }price;
};

void main(){
    Book b;
    cout<<"enter the author of a book";
    cin>>b.author;
    cout<<"enter the title of a book";
    cin>>b.title;
    cout<<"enter the date of a book";
    cin>>b.date.day>>b.date.month>>b.date.year;
    cout<<"enter the price of a book in dollars";
    cin>>b.price.dollars;
    cout<<"enter the price of a book in yen";
    cin>>b.price.yen;
    cout<<"information of book(";<<"author is
    "<<b.author<<","title is"<<b.title<<","date
    is"<<b.date.day<<"/"<<b.date.month<<"/"<<b.date.year<<"price in
    dollars="<<b.price.dollars<<"$"<<","<<"price in
    yen="<<b.price.yen<<"y"<<")";
}
```